



**DEPARTMENT OF THE ARMY
UNITED STATES ARMY GARRISON BENELUX (NSSG)
UNIT 21419
APO AE 09708**

IMEU-CHV-SO

MAR 24 2006

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: USAG Benelux (NSSG) Heat Injury Prevention Standing Operation Procedures (SOP)

- 1. References:**
 - a. Technical Bulletin (TB) MED 507, Heat Stress Control and Heat Casualty Management, 7 March 2003
 - b. AE Pamphlet 385-15, Leader's Operational Accident-Prevention Guide, 1 May 2003
 - c. Memorandum, HQ USAREUR/7A, AEAGA-S, 3 February 2004, Subject: USAREUR 2004 Summer Safety Campaign
 - d. Memorandum, HQ USAREUR/7A, AEAMD, 17 August 2004, Subject: Heat Injury Prevention Program
- 2. Applicability:** This SOP applies to U.S. Soldiers and civilian workforce assigned to USAG Benelux (NSSG).
- 3. Heat injuries continue to represent a serious threat to U.S. Soldiers and civilian workforce. The four most common variables attributable to heat injury are—**
 - a. Climate
 - b. Intensity and duration of the activity
 - c. An individual's risk factors
 - d. Improper re-hydration

The risk of heat injury is increased when the above variables are out of balance.
- 4. Responsibilities:**
 - a. Commanders, HHC, USAG Chievres, USAG Schinnen, and USAG Brussels will designate one Primary Installation Coordinator and one Alternate Installation Coordinator for their respective areas.

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b. Designated Installation Coordinators (ICs) will-

- Obtain a Wet Bulb Globe Thermometer (WBGT) (national stock number 6665-01-381-3023) from their local Installation Safety Office.
- Contact local Preventive Medicine to schedule required training to utilize the Wet Bulb Globe Thermometer.
- Take WBGT measurements, during the summer months when the ambient temperature reaches 75 degrees Fahrenheit (23.89 degrees Celsius). These readings must be taken every hour (or more frequently if determined by the installation Commander) and distributed by e-mail or through USAG Benelux (NSSG) Website to all activities on the installation, utilizing the enclosed message format. The WBGT index is used to determine a Heat Category which is used to determine work/rest cycles and water intake based on Light, Moderate and Hard work, as described in enclosed Heat Injury Prevention chart.

c. Preventive medicine will provide:

- Training on WBGT to designated ICs, upon request.
- Heat-injury awareness training for commanders and leaders.
- Consultation and advice to commanders to help them evaluate ways to reduce heat stress.

d. Installation Safety Office, USAG Benelux (NSSG) will obtain and distribute WBGTs to designated ICs

e. Commanders, supervisors, and other leaders will ensure the following actions are taken to prevent heat injuries during operations and training activities and at workplaces:

- Educate Soldiers and U.S. civilian employees on how important it is to promptly recognize the signs and symptoms of heat injuries and to seek immediate treatment.
- Review WBGT messages received from ICs, and post the heat index at training and work places.
- Modify the duty or work uniform to be appropriate for the activity. This can include covering or applying sunscreen to exposed skin to prevent sunburn.
- Monitor water intake and modify work/rest cycles using the WBGT readings and the Work/Rest/Water Consumption Table in the enclosure.

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- Conduct daily risk assessments and pre-mission planning for routine activities, as well as for rigorous activities. Adjust work schedules to avoid the hottest part of the day.
- Educate Soldiers and U.S. civilian employees on potential individual risk factors (including acute or chronic medical problems, use of medications and dietary or performance enhancing supplements, being overweight or dieting, and having a history of heat injury). Ensure individuals at risk consult with their health-care provider.
- Ensure individuals who have a history of heat injury are monitored using “the buddy system” when conducting training or strenuous activities.
- Incorporate heat-injury prevention into safety briefings before work assignments and training events.

5. Indoor Activities:

To prevent heat injury in indoor workplaces that do not have air conditioning but where routine activities occur, supervisors should:

- a. Open windows when indoor temperatures exceed outdoor temperatures.
- b. Use fans.
- c. Close window shades if shades do not restrict air movement.
- d. Minimize lighting.
- e. ~~Advise employees to wear light-weight clothing and to drink cool water at frequent intervals.~~
- f. Adjust work schedules to avoid the hottest part of the day.
- g. Use a liberal leave policy for employees who have known medical conditions.
- h. Move to alternate worksites that offer cooler environments if possible.
 - i. Consult with supporting industrial hygiene personnel to evaluate and determine work/rest cycles for indoor workplace activities where rigorous work activities occur (for example equipment maintenance, warehouse, or industrial activities).

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6. When the measures in paragraph 5 cannot reduce the heat-stress index below heat-category 5, USAG Benelux (NSSG) Commander may close all or part of an activity by granting excused absence (administrative leave) for U.S. civilian employees who are not emergency-essential. This authority may be delegated to the Deputy Garrison Commander.



Encls

1. Work/Rest/Water Consumption Table
2. Sample message for Heat Cat. 1
3. Sample message for Heat Cat. 2
4. Sample message for Heat Cat. 3
5. Sample message for Heat Cat. 4
6. Sample message for Heat Cat. 5

RUDY MAGAIN
Safety Manager

DISTRIBUTION:

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Commander, USAG Schinnen
Commander, USAG Brussels
Commander, USAG Chievres
Commander, HHC, USAG Benelux (NSSG)
Commander, HHD, USAG Brussels
Commander, HHC, USAG Schinnen
SHF, ATTN: Preventive Medicine
Industrial Hygiene, USAG Benelux (NSSG)

Heat Category, Work-Rest Cycle Chart

Easy (Light) Work examples		Moderate Work examples		Hard (Heavy) Work examples	
Soldier Tasks: Weapon maintenance Walking hard surface 2.5 mph <30 lb load	Soldier tasks: Calisthenics or patrolling Walking hard surface 3.5 mph <40 lb load/ sand 2.5 mph no load	Soldier tasks: Field assault Walking hard surface 3.5 mph >40 lb load/ sand 2.5 mph with load	Civilian tasks: Walking with moderate lifting and pushing	Civilian tasks: Heavy shoveling or digging	
Heat Category	WBGT Index	Easy (Light) Work	Moderate Work	Hard Work	
		Work/Rest cycle	Water intake (qt/hr)	Work/Rest cycle	Water intake (qt/hr)
1	78 - 81.9 °F (25.5 - 27.7 °C)	No Limit	1/2	No limit	3/4
2	82 - 84.9 °F (27.8 - 29.4 °C)	No Limit	1/2	50 / 10 min	3/4
3	85 - 87.9 °F (29.5 - 31 °C)	No Limit	3/4	40 / 20 min	3/4
4	88 - 89.9 °F (31.1 - 32.1 °C)	No Limit	3/4	30 / 30 min	3/4
5	> 90 °F (> 32.2 °C)	50 / 10 min	1	20 / 40 min	1
				30 / 30 min	1
				20 / 40 min	1
				10 / 50 min	1

Sample Message for Heat Cat. 1

The WBGT Index for 10 Aug 04 at 10:00 is 80 which is Heat Category 1
 Leaders/Supervisors enforce water intake and work rest cycles.

Easy (Light) Work examples		Moderate Work examples		Hard (Heavy) Work examples	
Soldier Tasks: Weapon maintenance Walking hard surface 2.5 mph <30 lb load	Soldier tasks: Calisthenics or patrolling Walking hard surface 3.5 mph <40 lb load/ sand 2.5 mph no load	Civilian tasks: Walking with moderate lifting and pushing	Soldier tasks: Field assault Walking hard surface 3.5 mph >40 lb load/ sand 2.5 mph with load Civilian tasks: Heavy shoveling or digging		
Heat Category	WBGT Index	Easy (Light) Work		Moderate Work	
1	78 - 81.9 °F (25.5 - 27.7 °C)	No Limit	½	No limit	¾
				40 / 20 min	¾
Work/Rest cycle		Water intake (qt/hr)	Work/Rest cycle	Water intake (qt/hr)	Work/Rest cycle

Sample Message for Heat Cat. 2

The WBGT Index for 10 Aug 04 at 10:00 is 83.5 which is Heat Category 2
 Leaders/Supervisors enforce water intake and work rest cycles. Modify
 clothing and/or environment to reduce risk.

Easy (Light) Work examples		Moderate Work examples		Hard (Heavy) Work examples	
Heat Category	WBGT Index	Work/Rest cycle	Water intake (qt/hr)	Work/Rest cycle	Water intake (qt/hr)
2 GREEN	82 - 84.9 °F (27.8 - 29.4 °C)	No Limit	1/2	50 / 10 min ¾	30 / 30 min 1

Sample Message for Heat Cat. 3

The WBGT Index for 10 Aug 04 at 10:00 is 85 which is Heat Category 3. Leaders/Supervisors enforce water intake and work rest cycles. Modify clothing and/or environment to reduce risk. Plan work schedules involving high performance during the cooler parts of the day. Adjust work schedules

Easy (Light) Work examples		Moderate Work examples		Hard (Heavy) Work examples	
Soldier Tasks: Weapon maintenance Walking hard surface 2.5 mph <30 lb load	Soldier tasks: Calisthenics or patrolling Walking hard surface 3.5 mph <40 lb load/ sand 2.5 mph no load Civilian tasks: Light hand or arm work Sitting or standing controlling machinery	Soldier tasks: Field assault Walking hard surface 3.5 mph >40 lb load/ sand 2.5 mph with load Civilian tasks: Walking with moderate lifting and pushing		Soldier tasks: Field assault Walking hard surface 3.5 mph >40 lb load/ sand 2.5 mph with load Civilian tasks: Heavy shoveling or digging	
Heat Category	WBGT Index	Easy (Light) Work		Moderate Work	
3 YELLOW	85 - 87.9 °F (29.5 – 31 °C)	Work/Rest cycle	Water intake (qt/hr)	Work/Rest cycle	Water intake (qt/hr)
		No Limit	¾	40 / 20 min	¾
				30 / 30 min	1

Sample Message for Heat Cat. 4

The WBGT Index for 10 Aug 04 at 10:00 is 90 which is Heat Category 4. Leaders/Supervisors enforce water intake and work rest cycles. Modify clothing and/or environment to reduce risk. Plan work schedules involving high performance during the cooler parts of the day. Adjust work schedules. Allow time for conditioning, fluid replacement and rest and recovery.

Easy (Light) Work examples		Moderate Work examples		Hard (Heavy) Work examples			
Heat Category	WBGT Index	Easy (Light) Work		Moderate Work		Hard Work	
		Work/Rest cycle	Water intake (qt/hr)	Work/Rest cycle	Water intake (qt/hr)	Work/Rest cycle	Water intake (qt/hr)
4 RED	88 - 89.9 °F (31.1 - 32.1 °C)	No Limit	¾	30 / 30 min	¾	20 / 40 min	1

Sample Message for Heat Cat. 5

The WBGT Index for 10 Aug 04 at 10:00 is 92 which is Heat Category 5
 Leaders/Supervisors enforce water intake and work rest cycles. Modify clothing and/or environment to reduce risk. Plan work schedules involving high performance during the cooler parts of the day. Adjust work schedules. Allow time for conditioning, fluid replacement and recovery. Heat stress accumulates during sequential days of strenuous activity. Watch personnel for any signs of heat, cramps stress or exhaustion

Easy (Light) Work examples		Moderate Work examples		Hard (Heavy) Work examples			
Heat Category	WBGT Index	Easy (Light) Work		Moderate Work		Hard Work	
		Work/Rest cycle	Water intake (qt/hr)	Work/Rest cycle	Water intake (qt/hr)	Work/Rest cycle	Water intake (qt/hr)
5 BLACK	> 90 °F (> 32.2 °C)	50 / 10 min	1	20 / 40 min	1	10 / 50 min	1